

## ABSTRACT

A high pressure discharge lamp includes a quartz glass bulb, a conductive element which is sealed at a sealing portion of the bulb, and a pair of electrodes. Each  
5 electrode is disposed in the quartz glass bulb so as to be opposite the other and connected to the conductive element. A part of each electrode is sealed with the quartz glass bulb at the sealing portion so as to generate a contacting portion formed by the part of each electrode and the bulb. The maximum length,  $L_{\max}$ , of the contacting portion is defined as:  $L_{\max} \text{ (mm)} \leq 200 / (P \times D)$ ; and the minimum length,  $L_{\min}$ , of the contacting  
10 portion is defined as:  $L_{\min} \text{ (mm)} \geq 0.8 / (D^2 \times \pi)$  or  $L_{\min} \text{ (mm)} \geq 0.7$  whichever is longer, where D is the diameter (mm) of the electrode and P is the power (W) supplied to the electrode.